REMARKS/ARGUMENTS

Favorable reconsideration of this application as presently amended and in light of the following discussion is respectfully requested. Claims 24-47 are pending, Claims 24, 28, 29 and 47 having been amended by way of the present amendment. Support for Claim 24 is found in the specification, for example at page 24, lines 23-30. Support for the amendment to Claim 28 is found throughout the specification, for example at page 6, lines 26-29, page 15, lines 31-36, page 16, lines 8-11 and page 20, lines 29-30. Support for Claim 29 is found throughout the specification for example at page 6, lines 23-25, page 16, lines 8-9, page 19, lines 1-3 and page 20, lines 25-28. Likewise, support for amended Claim 47 is similar to that as discussed above with regard to Claim 24. Therefore no new matter is added.

In the outstanding Office Action, Claims 24-40 and 43-47 were rejected as being unpatentable over Zinky (U.S. Patent No. 6,480,879, hereinafter Zinky); in view of Mei et al. (U.S. Patent No. 6,816,907, hereinafter Mei); Claims 41 and 42 were rejected over Zinky in view of Mei and in further view of Cardei ("Hierarchical Architecture for Real-Time Adaptive Resource Management", hereinafter Cardei).

In reply, Claim 24, for example, is directed to a program that configures an application programming interface as a data model describing quality of service contracts and quality of service adaptation paths as specified by quality of service aware mobile multimedia applications using the application programming interface. This configuration is established so as to manage quality of service and mobility-aware for managing network connections with other applications. The quality of service adaptation path defines an adaptation policy identifying quality of service specifications and allows quality of service changes. Middleware is adapted to negotiate with communication peers to generate adaptation paths by having a specific adaptation path proposed by an initiator of communication peers being validated by each of the other communication peers against its own adaptation policies, and

having each of the other communication peers respond with a counter offer that is limited to a definition of a subset of the specific adaptation path proposed by the initiator.

An advantage with this approach is that it reduces the cost of successive renegotiations as will now be discussed. In conventional systems, a negotiation process (see e.g., Section II.6.1 "Negotiation and Adaptation Path" of the present specification) involves an iterative scheme including offering an initial bid, bid examination and return of counter offers, examination of counter offers followed by modified bidding.... This iterative approach must be constrained with an upper limit of iteration, and is therefore complex and not efficient. Moreover, this negotiation process is quite expensive, which is given rise to other conventional negotiation processes. Another conventional technique employs a non-iterative negotiation process executed at start-up time only. The major drawback with this negotiation scheme for interactive service applications is seen in its requirement of successive renegotiations whenever a new communicating party joins a group of already communicating peers.

An advantage with the present invention to overcome the disadvantages of the prior art, is that it uses a negotiation process composed of contract conformance verification and a set of pruning operations that generates adaptation paths by having a specific adaptation path proposed by an initiator of the communication peers being validated by each of the other communication peers against its own adaptation policies. It also has each of the other communication peers respond with a counter offer that is limited to a definition of a subset of the specific adaptation path proposed by the initiator. Thus, an advantage with the present invention is that it reduces the cost of successive renegotiations because after an initial negation all peers converge more quickly to negotiation agreements as compared with the initial negotiation since the majority of peers are using an already negotiated adaptation path.

In order to render obvious the invention of Claim 24 for example, all of the elements of Claim 24 must be taught or suggested in the asserted references. However, neither Zinky nor Mei discloses a verification and pruning mechanism for a negotiation process. Thus, no matter how Zinky and Mei are combined, the combination does not teach or suggest all of the elements of Claim 24 and therefore does not render obvious the invention of Claim 24. Furthermore, apart from the negotiation process, the present invention has an advantage in that the quality of service association defining time-synchronization on a multiplicity of related streams is achievable. Only this time-synchronization provides a defined temporal relationship for a reproduction of streams having a common destination. Once again neither Zinky nor Mei alone or in combination teach or suggest such an advantage of the present invention. Although of different statutory class and/or scope, it is respectfully submitted that Claims 25-40 and 43-47, as amended, also patentably define over Zinky and Mei for at least the same reasons as discussed above with regard to amended Claim 24.

With regard to Claim 29, Claim 29 requires implementation of an adaptation path based on quality of service-context. An advantage with this approach is that it works well in multi-media applications, where a further stream has to be reproduced with a given temporal relationship to other streams at a destination terminal. Since the time-synchronization constraints enabled to define a maximum delay and maximum jitter of a given stream with respect to a reference stream or a group of reference streams, the streams can be synchronously reproduced on a terminal.

It is respectfully submitted that each of the tertiary or quaternary references used in the rejection of Claims 41 and 42 does not cure the deficiencies discussed above with regard to Zinky and Mei. Therefore no matter how Zinky, Mei and Cardei are combined, it is respectfully submitted the combination does not teach or suggest all of the elements of Claims 41 and 42.

Consequently, in view of the present amendment and in light of the foregoing comments, it is respectfully submitted that the invention defined by Claims 24-47, as amended, is patentably distinguishing over the prior art. The present application is therefore believed to be in condition for formal allowance and an early and favorable reconsideration of this application is therefore requested.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.

Bradley D. Lytle
Attorney of Record
Registration No. 40,073

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413 -2220
(OSMMN 06/04)

I:\ATTY\BDL\28s\282665US\282665US.AM1.DOC